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TRANSMITTAL LETTER TO THE UNITED STATES

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DESIGNATED/ELECTED OFFICE (DO/EO/US)

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

CONCERNING A FILING UNDER 35 U.S.C. 371

09/890284

INTERNATIONAL APPLICATION NO.

PCT/JP00/00850

INTERNATIONAL FILING DATE

February 16, 2000

PRIORITY DATE CLAIMED

February 24, 1999

TITLE OF INVENTION

DEVICE FOR IONTOPHORESIS

APPLICANT(S) FOR DO/EO/US Kazutaka Inoue, Hirotohi Adachi, Hiroyuki Maeda,  
Naruhito Higo

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to promptly begin national examination procedures (35 U.S.C. 371(f)).
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 16 below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: Claim For Priority

17. ☒ The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

Neither international preliminary examination fee (37 CFR 1.482)

nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO

and International Search Report not prepared by the EPO or JPO ..... \$1000.00

International preliminary examination fee (37 CFR 1.482) not paid to

USPTO but International Search Report prepared by the EPO or JPO ..... \$860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but

international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$710.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)

but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... \$690.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)

and all claims satisfied provisions of PCT Article 33(1)-(4) ..... \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

CALCULATIONS PTO USE ONLY

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Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(e)).

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	7 - 20 =	- 0 -	X \$18.00
Independent claims	3 - 3 =	- 0 -	X \$80.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$270.00

TOTAL OF ABOVE CALCULATIONS =

☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above  
are reduced by 1/2.

SUBTOTAL =

Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(f)).

TOTAL NATIONAL FEE =

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be  
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

TOTAL FEES ENCLOSED =

Amount to be  
refunded: \$  
charged: \$

a. ☒ A check in the amount of \$ 900 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any  
overpayment to Deposit Account No. 20-1424. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

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# SPECIFICATION

## DEVICE FOR IONTOPHORESIS

### 5 TECHNICAL FIELD

The present invention relates to a device for use in an iontophoresis apparatus that is applied to transdermal or transmucosal.

### 10 BACKGROUND ART

Iontophoresis is a percutaneous absorption promoting system using electricity, which is based on the principle that forces act on charged molecules such that positively charged molecules transfer from a positive electrode to a negative electrode and negatively charged molecules migrate from the negative electrode to the positive electrode in an electric field generated by passing of electric current, thereby accelerating drug delivery through skin barrier. (Refer to "Journal of Controlled Release", Vol. 18, 1992, pp. 213-220; "Advanced Drug Delivery Review", Vol. 9, 1992, p. 119; and "Pharmaceutical Research", Vol. 3, 1986, pp. 318-326.)

There are conventional means for checking whether the transfer of molecules (including drug) is normally carried out. For example, an iontophoresis apparatus from Motion Control, Inc. determines a value of an output current to that of an output voltage when a direct current is applied to a subject. If the value of the output current is less than a

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